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STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000

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FEDERAL ENERGY  
REGULATORY COMMISSION

September 30, 2003

Magalie Roman Salas  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

RE: Snoqualmie Falls Hydroelectric Project, FERC No. 2493  
Section 401 Water Quality Certification

Dear Secretary Salas:

Enclosed for filing is a copy of Washington Department of Ecology Order No. DE 03WQNR-5410 issuing a Section 401 Water Quality Certification for the Snoqualmie Falls Hydroelectric Project (FERC No. 2493). This order was issued to Puget Sound Energy on September 25, 2003.

Please contact Robert Wright at the Northwest Regional Office of the Department of Ecology with any questions at (425) 649-7060. Thank you.

Sincerely,

A handwritten signature in black ink that reads "Robert Wright".

Robert Wright  
Water Quality Program  
Northwest Region

RW:ll

cc: Snoqualmie Falls Service List



UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Puget Sound Energy     )     Project No. 2493

CERTIFICATE OF SERVICE

I, Lynette, hereby certify that on the 1st day of October 2003 I served via United States mail, postage prepaid, a copy of the attached Water Quality Certification for the Snoqualmie Falls Project (FERC Project No. 2493) to all parties of record, as set forth in the attached Service List, in accordance with the rules of the Federal Energy Regulatory Commission.

Lynette Layden  
(Name)



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REGULATORY COMMISSION

**REGISTERED MAIL**

**RR 093 786 471 US**

Mr. Edward R. Schild  
Director, Energy Production and Storage  
Puget Sound Energy  
P. O. Box 97034  
Bellevue, WA 98009-9734

Dear Mr. Schild:

Re: Snoqualmie Falls Hydroelectric Project FERC No. 2493

Enclosed is Order No. DE 03WQNR-5410. This Order requires you to comply with the accompanying 401 Water Quality Certification issued for the Snoqualmie Falls Hydroelectric Project (FERC Number 2493). All correspondence relating to this document should be directed to the Enforcement Coordinator, Department of Ecology, Northwest Regional Office, 3190 - 160th Avenue SE, Bellevue, WA 98008-5452. If you have any questions concerning the content of the document, please call Robert Wright, at (425) 649-7060.

The enclosed Order may be appealed. The appeal procedures are described in the Order.

Sincerely,

Cyma Tupas  
Enforcement Specialist  
Water Quality Section

CT:RJW:dh  
Enclosure

cc: Magalie R. Salas, Secretary, FERC, Washington, D.C.  
Harry T. Hall, FERC, Portland, Oregon  
Richard Wallace, Water Quality Program Manager  
Gordon White, Water Resources Program Manager  
Jeannie Summerhays, Shorelands and Water Resources Supervisor, NWRO  
Jeff Marti, Water Resources Program  
Joan Marchioro, AAG, Ecology Division  
Service List  
Robert Wright, Water Quality Specialist  
Cyma Tupas, Enforcement Specialist  
Don Seeberger, Compliance & TA Unit Supervisor  
John Drabek, Industrial Unit Supervisor



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

**IN THE MATTER OF GRANTING )  
A WATER QUALITY )  
CERTIFICATION TO: )  
Puget Sound Energy )  
in accordance with 33 U.S.C. 1341 )  
FWPCA § 401, RCW 90.48.260 )  
and WAC 173-201A )**

**ORDER No. DE 03WQNR-5410  
Relicensing of the Snoqualmie Falls  
Hydroelectric Project (FERC # 2493)  
King County, Washington**

**TO: Mr. Edward R. Schild  
Director, Energy Production and Storage  
Puget Sound Energy  
P. O. Box 97034  
Bellevue, WA 98009-9734**

On April 7, 2003, Puget Sound Energy filed an application requesting that the state of Washington Department of Ecology (Ecology) issue a certification under the provisions of 33 USC 1341 (FWPCA § 401) for the above referenced project. The request for certification was made available for public review and comment through a 30-day public comment period dated May 8, 2003.

**NATURE OF PROJECT:**

In May 1991, Puget Sound Energy originally filed an application with the Federal Energy Regulatory Commission (FERC) to relicense its two powerhouse hydroelectric facility at Snoqualmie Falls. Snoqualmie Falls is located on the Snoqualmie River near the City of Snoqualmie, approximately 25 miles east of Seattle, in King County. The Snoqualmie River flows west and north through the Snoqualmie Valley where it joins the Skykomish River and becomes the Snohomish River. The Snoqualmie River is designated under state water quality standards as Class A waters of the state. The project entails the refurbishment of both powerhouses, penstock upgrades, and the installation of an inflatable rubber weir with side spillway. The refurbishment will improve the project's total generating capacity from 42 MW to 49 MW, while continuing to divert up to 2,500 cfs of river flow around the falls.

**AUTHORITIES:**

Ecology, exercising its authority pursuant to 33 USC 1341 and RCW 90.48.260, having investigated said application, makes the following findings:

1. The project has been reviewed for conformance with applicable water quality based, technology based, toxic or pretreatment effluent limitations as provided under 33 USC 1311, 1312, 1316, and 1317 (FWPCA Sections 301, 302, 303, 306, and 307).
2. The project has been reviewed for conformance with the state water quality standards as provided for in Chapter 173-201A WAC as authorized by 33 USC 1313 and by Chapter 90.48 RCW.
3. The project has been reviewed for conformance with the provision of all known, available and reasonable methods to prevent and control pollution of state waters as required by RCW 90.48.010.

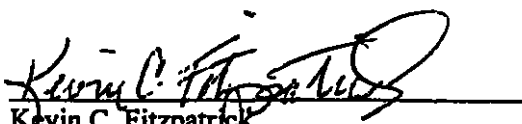
In view of the foregoing and in accordance with 33 USC 1341, RCW 90.48.260 and Chapter 173-201A WAC, **IT IS ORDERED THAT:**

1. Subject to the attached conditions, Certification under the provisions of 33 USC 1341 is granted to Puget Sound Energy for the Snoqualmie Falls Hydroelectric Project.
2. This Certification does not exempt Puget Sound Energy's compliance with the state's Coastal Zone Consistency Determination.
3. This Certification does not exempt Puget Sound Energy's compliance with other statutes and codes administered by federal, state and local agencies.
4. This Certification will cease to be valid if the project is constructed and operated in a manner not consistent with the application for certification.
5. This certification will cease to be valid and the applicant must reapply with an updated application if five (5) or more years elapse between the date of the issuance of this certification and commencement of construction and/or discharge for which the federal license or permit is being sought.
6. This Certification will cease to be valid and the applicant must reapply with an updated application if the information contained in the application is voided by subsequent submittals to the federal permitting or licensing agency.

Any person who fails to comply with any provision of this Order shall be liable for a penalty of up to ten thousand dollars (\$10,000) for each day of continuing noncompliance.

This Order may be appealed. Your appeal must be filed with the Pollution Control Hearings Board, P.O. Box 40903, Olympia, Washington 98504-0903 within thirty (30) days of your receipt of this Order. At the same time, your appeal must also be served on the Department of Ecology, Fiscal Office, P.O. Box 47615, Olympia, Washington 98504-7615. In addition, please send a copy of your appeal to the Enforcement Coordinator, Department of Ecology, Northwest Regional Office, 3190 - 160<sup>th</sup> Avenue, Bellevue, Washington 98008-5452. The notice of appeal shall contain a copy of the order or decision appealed from, and if the order or decision followed an application, a copy of the application. Your appeal alone will not stay the effectiveness of this Order. Stay requests must be submitted in accordance with RCW 43.21B.320. These procedures are consistent with Ch. 43.21B RCW.

DATED at Bellevue, Washington September 24, 2003

  
Kevin C. Fitzpatrick  
Water Quality Supervisor  
Northwest Regional Office  
Department of Ecology  
State of Washington

**ORDER NO. DE 03WQNR-5410**

**CERTIFICATION FOR THE SNOQUALMIE FALLS HYDROELECTRIC PROJECT**

**CONDITIONS**

**I. General Requirements**

- A. All water quality criteria specified in Chapter 173-201A WAC apply to all waters affected by this project and Puget Sound Energy shall comply with those criteria, in accordance with this Order and the referenced documents. Nothing in this order shall be construed to allow Puget Sound Energy to violate Washington State water quality standards.
- B. In the event of changes in or amendments to the state water quality standards (WAC 173-201A), the state Water Pollution Control Act (RCW 98.48), or the Federal Clean Water Act (33USC 1251, et seq.), such provisions, standards, criteria or requirements shall also apply to this project and any attendant agreements, orders or permits.
- C. Discharge of any solid or liquid waste to waters of the state without the approval of Ecology is prohibited.
- D. Puget Sound Energy shall allow Ecology such access as necessary to inspect the project for compliance with the conditions of this order.
- E. Ecology retains the right to require additional monitoring or studies if it determines there is a likely probability that water quality violations have or may occur in accordance with the amendment of certification process described in Section VII.
- F. Puget Sound Energy's construction activities described in its application for certification must comply with all conditions of any applicable Washington Department of Fish and Wildlife Hydraulic Project Approval.
- G. Copies of this order and associated permits, licenses, approvals and other documents shall be kept on site and made readily available for reference by Puget Sound Energy staff, its contractors and consultants, and by Ecology.
- H. Ecology will be developing a temperature Total Maximum Daily Load (TMDL) and associated implementation plan for bringing the Snoqualmie River into compliance with Washington State's water quality standards. Where it is more protective, the provisions of the implementation plan relevant to Snoqualmie Falls Hydropower Project and its operations, including specified time frames for implementing improvement measures, shall supercede the conditions of this order.

**II. Instream Flow**

- A. The project shall be operated to ensure that at least the following rates of instream flow, or natural flow, whichever is less, pass over Snoqualmie Falls as measured at the crest of the diversion weir, in accordance with the following schedule:

<u>Time Period</u>	<u>Daytime</u>	<u>Nighttime</u> <sup>1</sup>
May 16 – May 31	200 cfs	200 cfs
June 1 – June 30	450 cfs	450 cfs
July 1 – July 31	200/100 <sup>2</sup> cfs	200/25 <sup>2</sup> cfs
August 1 – August 31	200/100 <sup>2</sup> cfs	200/25 <sup>2</sup> cfs
September 1 – May 15	100 cfs	25 cfs

<sup>1</sup> Nighttime hours are defined as one hour after sunset to one hour before sunrise.

<sup>2</sup> Weekends and holidays flat 200 day/night, weekdays 100 day/25 night  
cfs means cubic feet per second

Between the Snoqualmie Falls plunge pool and Powerhouse # 2, Puget Sound Energy shall always provide at least a minimum flow of 300 cfs or natural river flow, whichever is less.

Instream flows shall be maintained in any bypass reach and downstream of the project, in a quantity sufficient to meet water quality goals and standards for the waterway, as provided in Chapter 173-201A WAC and RCW 90.48.

In order to assure continuing compliance with Chapter 173-201A WAC, Ecology reserves the right to amend the instream flow requirements specified in this Certification in accordance with the amendment of certification process described in Section VII.

**B. Ramping Rate <sup>3</sup>**

<u>Season</u>	<u>Daylight</u> <sup>4</sup> <u>Rates</u>	<u>Nighttime Rates</u>
Feb. 16 - June 15	No ramping allowed	2 inches per hour
June 16 – Oct. 31	1 inch per hour	1 inch per hour
Nov. 1 – Feb. 15	2 inches per hour	2 inches per hour

<sup>3</sup> Ramping rate refers to the allowable stage of decline unless otherwise noted.

<sup>4</sup> Daylight hours are defined as one hour before sunrise to one hour after sunset.

Within two (2) years of the date of this Certification, Puget Sound Energy shall develop and implement a study to establish the critical flow for the area of project influence. Within two (2) years of the installation of the rubber weirs and turbine generator refurbishment/replacement, Puget Sound Energy shall develop and implement a study to establish specific ramping rates for the area of project influence. This study shall include the establishment of the low flow levels at which point Puget Sound Energy shall go to a flat 100 cfs in order to protect fish during the low flow period from August 1 until October 31. This study shall also investigate the feasibility of using partial weir deflation to further moderate the ramping rate changes associated with Plant #1. These two studies shall be developed in consultation with Ecology, Washington Department of Fish & Wildlife (WDFW) and the federally recognized Tribes in the watershed, and be approved

by WDFW. The critical flow and ramping rates identified by these studies shall become the established critical flow and ramp rates for this project effective immediately upon approval by WDFW.

From July 1 through May 31, all ramping shall be conducted using Powerhouse #1, unless unable to do so due to maintenance or repair. From June 1 through June 30, ramping shall be conducted using Powerhouse #1 to the maximum extent possible.

From February 16 through June 15, each nightly flow reduction over the falls shall be completed five (5) hours before sunrise.

All established ramp rates must be in compliance for river flows below the critical flow criteria, as measured at the USGS Gauging Station 12144500, Snoqualmie River near Snoqualmie.

The project shall not exceed an upramp rate of more than six (6) inches per hour for all flows below the deflation threshold for the rubber weirs as determined in Section VI.B.

**C. Flow Continuation Criteria**

The project shall adhere to the following flow continuation criteria as specified by WDFW. Powerhouse #2 of the project shall be operated such that 48 hours of continuous flow can be maintained by use of the flow continuation valve or another unit in the same powerhouse. The project shall be operated to provide the required ramping rate.

Flow continuation requirements for Powerhouse #2 shutdowns are as follows:

- (1) Under high flow conditions, which are defined as flows in excess of the annual ten (10) percent exceedance flow, no flow continuation is required.
- (2) A minimum of six (6) hours of flow continuation shall be required when instream flow is between the high flow and the critical flow as defined below.
- (3) When flows are at or below critical flow, flow continuation shall be maintained for a minimum of 24 hours from June 16 to February 15.

Critical flow is defined as the flow above which there is no risk of stranding or redd dewatering. The critical flow above which there is no risk of stranding or redd dewatering is defined on an interim basis as 1,700 cfs, as measured at the USGS Gauging Station 12144500, Snoqualmie River near Snoqualmie, until the studies required in Section II.B are completed.

When penstock disruption is inevitable, flow continuation requirements may be suspended, and ramping may start immediately. Examples of inevitable disruption include sudden mechanical failures or repairs requiring dewatering of the penstock. At Powerhouse #1, the flow continuation criteria include the use of water flow deflectors and transfers of flow to other Powerhouse #1 units, if available, subject to the same three flow continuation requirements stated above for Powerhouse #2 shutdowns. As part of the Critical Flow study required in Section II.B, Puget Sound Energy shall determine, in

consultation with the agencies, the feasibility of using partial deflation of the diversion weir to help maintain flow continuity in the event of unit shutdowns or penstock flow disruptions at Powerhouse #1.

### **III. Water Quality Monitoring and Reporting**

#### **A. Long-Term Facility Operations**

Temperature measurement and recording devices capable of recording temperatures on an hourly basis shall be installed upstream of the diversion, immediately upstream of Powerhouse #1 tailrace and immediately upstream of Powerhouse #2 tailrace. From June 1 through October 31, Puget Sound Energy shall monitor temperatures on a daily basis to ensure compliance with the water quality standards.

Whenever the diversion of waters from the Snoqualmie River is causing, or may be tending to cause, water temperature below the diversion dam to exceed the allowable increases set forth in state water quality standards (Chapter 173-201A WAC), Puget Sound Energy shall modify its diversion to the extent necessary to ensure that the project does not cause such exceedances.

Puget Sound Energy shall collect representative water quality samples at upstream and downstream sampling locations approved by Ecology, in accordance with the following methods and schedule:

- (1) Within 60 days of the issuance of this Certification, Puget Sound Energy shall submit a monitoring plan for Total Dissolved Gas (TDG) to Ecology. At a minimum the plan shall consist of four (4) TDG measurements taken over three (3) consecutive months at each powerhouse. The monitoring shall be initiated within 60 days of the completion of the rubber weirs. If all measurements of TDG are in compliance with water quality standards set forth in Chapter 173-201A WAC, the frequency of TDG monitoring may be reduced to annually thereafter.
- (2) Water quality monitoring results obtained shall be reported to Ecology's Water Quality Program, Northwest Regional Office, on an annual basis. Data shall be summarized and reported in a format approved by Ecology. This report shall be submitted no later than January 31<sup>st</sup> each year.
- (3) Suspension or modification of water quality monitoring as described above may be requested if, after a minimum of three (3) years of complete, reliable data collection following the completion of the rubber dam, demonstrates that there are no violations of water quality standards.
- (4) Any observed values in excess of Class A water quality standards for pH, temperature, dissolved oxygen, total dissolved gas, and turbidity, shall be reported to Ecology's Northwest Regional Office within 48 hours of observation. The report shall include an explanation for cause of the exceedance and notification of the actions taken to correct the exceedance.

- 5) Flow monitoring information obtained to validate the instream flow requirements shall be reported to Ecology's Water Quality Program, Northwest Regional Office, on January 31<sup>st</sup> each year. Data shall be submitted in the format of mean daily flows, or as specified in any new water right subsequently issued for this project.
- (6) Calibration procedures for flow measurement shall be in accordance with manufacturers recommendations and be made available to Ecology upon request.
- (7) Ecology may, where necessary to protect water quality, require that Puget Sound Energy implement a more rigorous water quality sampling program for the listed or additional parameters in accordance with the amendment of certification process described in Section VII.

**B. Construction Activities**

A Water Quality Compliance Monitoring Plan shall be developed and implemented in accordance with the Water Quality Protection Plan submitted to and approved by Ecology pursuant to Section V.A of this certification. The plan shall be submitted to and approved by Ecology's Water Quality Program, Northwest Regional Office 30 days prior to the commencement of construction related activities. The Plan shall include monitoring protocols for parameters of concern including turbidity, pH, Total Suspended Solids (TSS), Dissolved Oxygen (D.O.) and Total Petroleum Hydrocarbons (TPH).

**IV. Oil Spill Prevention and Control**

- A. An Oil Spill Prevention, Control, Containment, and Countermeasure Plan must be prepared that covers all oil filled equipment to be installed and utilized at the site. This equipment includes the turbine/generator set, all oil filled transformers and capacitors to be installed at the project, and all mobile maintenance equipment to be utilized at the project.
- B. RCW 90.56 prohibits any discharge of oil, fuel or chemicals into state waters, or onto land with a potential for entry into state waters.
- C. Visible floating oils released from construction or project operation shall be immediately contained and removed from the water.
- D. All oil, fuel or chemical storage tanks shall be diked and located on impervious surfaces so as to prevent spills from escaping to surface waters or ground waters of the state.
- E. Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., shall be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent spills into state waters. Proper security shall be maintained to prevent vandalism.
- F. In the event of a discharge of oil, fuel or chemicals into state waters, or onto land with a potential for entry into state waters, containment and clean-up efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work. Clean-up shall include proper disposal of any spilled material and used clean-up materials.

- G. No emulsifiers or dispersants are to be used in waters of the state without prior approval from Ecology's, Northwest Regional Office.
- H. Spills into state waters, spills onto land with a potential for entry into state waters, or other significant water quality impacts, shall be reported immediately to Ecology's, Northwest Regional Office at (425) 649-7000 (24 hour phone number).

V. Construction Activities

- A. A Water Quality Protection Plan shall be developed for all in and near-water construction work related to the project. The Plan shall be submitted to and approved by Ecology's Water Quality Program, Northwest Regional Office prior to the commencement of construction related activities. Along with applicable Best Management Practices for in and near-water work, the Plan shall include a Water Quality Compliance Monitoring Plan (Section III.B), and if applicable, a copy of the Hydraulic Project Approval (HPA) secured from WDFW for the project.
- B. A full time Pollution Control Inspector shall be made available to supervise implementation of the Water Quality Protection Plan.
- C. All construction contractors working on the project shall use all reasonable measures to minimize the impacts of construction activity on waters of the state. Water quality constituents of particular concern are turbidity, suspended sediment, settleable solids, Total Petroleum Hydrocarbon (TPH), and pH. These measures include use of Best Management Practices (BMP's) to control erosion and sedimentation, proper use of chemicals, oil and chemical spill prevention and control, clean-up of surplus construction supplies and other solid wastes, use of flow deflectors when working within the stream channel, adequate operation and maintenance of sedimentation ponds, and land application of sedimentation pond effluent where possible.
- D. Coverage under an NPDES Construction Stormwater General Permit shall be obtained prior to the start of construction activities, if required by current NPDES permitting requirements.
- E. Care must be taken to prevent any petroleum products, paint, chemicals, or other harmful materials from entering the water.
- F. Work in or near the waterway shall be done so as to minimize turbidity, erosion and other water quality impacts.
- G. Mobile equipment that enters the water shall be maintained such that a visible sheen from petroleum products does not appear.
- H. Construction related activities resulting in dead or dying fish are not allowed and these activities shall cease immediately and Ecology's Water Quality Program, Northwest Regional Office shall be notified immediately by telephone at (425) 649-7000, a 24 hour number.

**VI. Operation of Rubber Weir**

- A. The operation of the rubber weir shall not result in a dam crest elevation at Snoqualmie Falls to exceed 396.5 feet (1929 NGVD).
- B. Deflation procedures for the rubber weir shall be in accordance with protocols established by written agreement between Ecology, King County Surface Water Management, Puget Sound Energy, City of Snoqualmie and other relevant agencies or authorities.

**VII. Amendment of This Certification**

To the fullest extent provided by law, Ecology reserves the right to amend this Certification if Ecology determines that the provisions hereof are no longer adequate to provide reasonable assurance of compliance with applicable water quality standards or other applicable requirements of State law. Any such amendment shall be done by order which shall be appealable to the Pollution Control Hearings Board pursuant to RCW 43.21B. Ecology shall transmit any such orders to the Federal Energy Regulatory Commission for inclusion in the existing license order.

**VIII. Enforcement of Provisions of Section 401 Certification.**

To the fullest extent provided by law, Ecology reserves the right to bring enforcement actions pursuant to state law or federal law to enforce the requirements of this certification and all applicable requirements of state or federal water quality laws. Such authority includes the right to seek civil or criminal penalties.

**IX. Additional Requirements**

This certification does not relieve the applicant from the responsibility of meeting applicable regulations of other agencies.